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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/746,277	12/21/2000	William Eric Main	SC11507ZC	2788
23125	7590	05/10/2004	EXAMINER	
FREESCALE SEMICONDUCTOR, INC. LAW DEPARTMENT 7700 WEST PARMER LANE MD:TX32/PL02 AUSTIN, TX 78729			WANG, TED M	
			ART UNIT	PAPER NUMBER
			2634	

DATE MAILED: 05/10/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/746,277

Applicant(s)

MAIN ET AL.

Examiner

Ted M Wang

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-27 is/are allowed.
- 6) ☒ Claim(s) 28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)     | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's amendment paper #6 filed on March 24, 2003, have been fully considered. The Examiner has thoroughly reviewed Applicants' arguments with the following results.

- Claim rejections under U.S.C. 103: The claims 1 and 2 have been overcome by rewritten the objected claim in independent form.
- Claims 2 and 3 are cancelled and claim 28 is added.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Main (US5,650,749) in view of Iwasaki (US5,508,878).

- In regard claim 28, Main discloses a demodulator circuit with an oscillator having a first input for receiving the modulated signal (Fig.1 element 111 and Fig.2 element 210, and column 2 lines 4-20, column 4 lines 56-62); and a multiplier having a first input for receiving the modulated signal and a second input for

receiving a signal generated by the oscillator (Fig.1 element 122, and column 2 lines 33-63); and a tuning circuit coupled to an output of the multiplier (Fig.1 element 103, Fig.2 element 221, and Fig.3 element 322, and column 3 line 42 – column 4 line 17, column 5 lines 3-25, and column 6 lines 4-14); and a filter having an input coupled to an output of the tuning circuit and an output coupled to a second input of the oscillator (Fig.1 element 123) except specifically teaching that , the tuning circuit selectively disabling the AFC in response to the output of the multiplier.

Iwasaki discloses a AFC within a demodulator having an Automatic Frequency Control (AFC) or tuning circuit that can be disabled or “ON” or “OFF” (Fig.1 element 18, and columns 3 line 32 – column 5 line 22) in order to provide an automatic frequency control that even when a power supply is frequently turned on/off, reception synchronization can always be established at a high speed with a relatively simple structure.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Main’s injection-locked demodulator circuit in view of Iwasaki’s disclosure in order to provide an automatic frequency control that even when a power supply is frequently turned on/off, reception synchronization can always be established at a high speed with a relatively simple structure.

***Allowable Subject Matter***

4. Claims 1-27 are allowed.
5. The following is an examiner’s statement of reasons for allowance:

- Claims 1-14 have been overcome by rewritten the objected claim in independent form.
- The reasons for allowance of claims 15-27 have been given in paper #5 filed on 3/15/2004.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### **Conclusion**

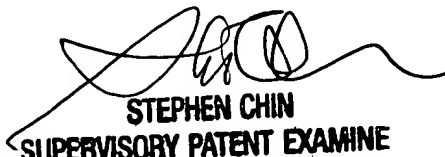
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted M Wang whose telephone number is (703) 305-0373. The examiner can normally be reached on 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Chin can be reached on (703) 305-4714. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

Ted M. Wang

Ted M Wang  
Examiner  
Art Unit 2634

  
**STEPHEN CHIN**  
**SUPERVISORY PATENT EXAMINE**  
**TECHNOLOGY CENTER 2600**